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the teaching of *Farber et al.* (US 3,951,906) and has further rejected the referenced claims under Section 103(a) as being unpatentable in light of the teaching of *Farber et al.* (*ibid.*) when taken in view of the disclosure of *Hirano et al.* (US 6,448,316).

As regards *Farber et al.*'s teaching the Examiner argued *inter alia* that the amount of mica which is specified in applicants' claims "is rendered obvious by the amounts of mica suggested by *Farber.*" Applicants respectfully disagree. Mica is mentioned in the *Farber et al.* reference only once, ie. in claim 12.<sup>2)</sup> In the respective claim, *Farber et al.* define a very specific blend which comprises

- between about 40% and 60% of a styrene-butadiene-acrylonitrile interpolymer;
- between about 20% and 30% of mica having a particular cross-sectional dimension; and
- between about 20% and 30% of discontinuous glass fibers having a certain diameter.

The compositions which are referenced in applicants' claims differ considerably from the blend of *Farber et al.* on the one hand in the make up of the polymer and on the other hand in the amounts in which mica is employed.

Where *Farber et al.*'s blend comprises a styrene-butadiene-acrylonitrile interpolymer applicants' invention requires the presence of a certain styrene-acrylonitrile copolymer which is built up from

- a: as component A, from 20 to 100% by weight, based on the entirety of components A + B, of a hard component made from one or more copolymers of styrene and/or  $\alpha$ -methylstyrene with acrylonitrile, the proportion of acrylonitrile being from 10 to less than 28% by weight,
- b: from 0 to 80% by weight, based on the entirety of components A + B, of at least one graft copolymer B made from
  - b1: as component B1, from 10 to 90% by weight of at least one elastomeric particulate graft base with a glass transition temperature below 0°C, and
  - b2: as component B2, from 10 to 90% by weight of at least one graft made from polystyrene or from a copolymer of styrene and/or  $\alpha$ -methylstyrene with acrylonitrile, the proportion of acrylonitrile being from 10 to less than 28% by weight,

2) Cf. col. 8, indicated lines 21 to 29, of US 3,951,906.

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and where Farber et al.'s blend comprises between about 20% and 30% of mica having a particular cross-sectional dimension, applicants' claims require the presence of from 0.05 to 5 parts by weight, or from 0.15 to 3 parts by weight, of mica based on the total weight of the components used.

Apart from the specific mica-comprising blend which is addressed in claim 12, Farber et al. merely generically describe that high impact strength of thermoplastic styrene-acrylonitrile polymers containing particulate fillers can be maintained or achieved by adding discontinuous glass fiber in combination with the particulate filler,<sup>3)</sup> and in the context of the generic description, Farber et al. mention as examples of particulate fillers "charcoal, graphite, aluminum, iron oxide, calcium carbonate, silica, alumina, talk, clay, limestone, etc,"<sup>4)</sup> which may be present in from 5% to 65% and preferably 10 to 30% by weight of the total composite blend.<sup>5)</sup> The Examiner's position that the reference suggests the combination of the requisite amounts of mica with the particular styrene-acrylonitrile copolymer referenced in applicants' claims is, in light of the factual circumstances, not deemed to be well taken.

To establish a prima facie case of obviousness in a genus-species chemical composition situation, as in any other 35 U.S.C. §103 case, it is essential that there be some motivation or suggestion to make the claimed invention in light of the prior art teachings.<sup>6)</sup> The patentability of a claim to a specific compound or subgenus embraced by a prior art genus should be analyzed no differently than any other claim for purposes of 35 U.S.C. §103. "The section 103 requirement of unobviousness is no different in chemical cases than with respect to other categories of patentable inventions."<sup>7)</sup> The fact that a claimed species or subgenus is encompassed by a prior art genus is not sufficient by itself to establish a prima facie case of obviousness.<sup>8)</sup> In fact, the Federal Circuit has "decline[d] to extract from *Merck & Co. v. Biocraft Laboratories Inc.*, 874 F.2d 804, 10 USPQ2d 1843 (Fed.

3) Cf. col. 1, indicated lines 60 to 68, of US 3,951,906.

4) Cf. col. 2, indicated lines 35 to 38, of US 3,951,906.

5) Cf. col. 3, indicated lines 15 to 28, of US 3,951,906.

6) See, e.g., *In re Brouwer*, 77 F.3d 422, 425, 37 USPQ2d 1663, 1666 (Fed. Cir. 1996); *In re Vaack*, 947 F.2d 488, 493, 20 USPQ2d 1438, 1442 (Fed. Cir. 1991); *Hodosh v. Block Drug Co.*, 786 F.2d 1136, 1143 n.5, 229 USPQ 182, 187 n.5 (Fed. Cir. 1986).

7) *In re Papesch*, 315 F.2d 381, 385, 137 USPQ 43, 47 (CCPA 1963).

8) *In re Baird*, 16 F.3d 380, 382, 29 USPQ2d 1550, 1552 (Fed. Cir. 1994).

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Cir. 1989)] the rule that . . . regardless of how broad, a disclosure of a chemical genus renders obvious any species that happens to fall within it."<sup>9)</sup>

The teaching of *Farber et al.* lacks the necessary motivation or suggestion to do what applicants have done in several regards. On the one hand, as already addressed by applicants in their previous replies, the teaching does not contain anything which would have directed a person of ordinary skill in the art to the styrene-acrylonitrile copolymer defined in applicants' claims. Moreover, the teaching of *Farber et al.* aims at maintaining and/or achieving high impact strength and would, as such, not have motivated a person of ordinary skill in the art to reduce the amount of mica which is, in accordance with the provisions of *Farber et al.*'s claim 12, required. Equally pertinently, the teaching of *Farber et al.* falls short from rendering applicants' invention as a whole prima facie obvious as is required for a finding of obviousness under Section 103(a).<sup>10)</sup> Applicants have found that mica in amounts of 0.05 to 5 parts by weight, or from 0.15 to 3 parts by weight, when added to the certain styrene-acrylonitrile copolymers which are defined in applicants' claims improve the chemicals resistance and the stress-cracking resistance, and reduce the swelling of the copolymer.<sup>11)</sup> The particular properties which are conveyed to the materials in accordance with applicants' invention are immediately evident from the data compiled in the experimental section of the application.<sup>12)</sup> Nothing in *Farber et al.*'s teaching indicates or implies that the respective properties of thermoplastic styrene-acrylonitrile polymers can be modified by any particular means. More pertinently, the reference fails to suggest or imply that the respective properties are improved when mica is employed in the small amounts which are used in accordance with applicants' invention in the specified styrene-acrylonitrile copolymers. Obviousness cannot be predicated on what is unknown.<sup>13)</sup> In light of the foregoing, the teaching of *Farber et al.* is not deemed suited to establish that the

9) *In re Jones*, 958 F.2d 347, 350, 21 USPQ2d 1941, 1943 (Fed. Cir. 1992). See also *In re Deuel*, 51 F.3d 1552, 1559, 34 USPQ2d 1210, 1215 (Fed. Cir. 1995).

10) Cf. *In re Antonie*, 559 F.2d 618, 620, 195 USPQ 6, 8 (CCPA 1977).

11) Cf., e.g. Claim 9.

12) Cf. in particular Table 5, page 20, of the application.

13) Cf. *In re Adams*, 356 F.2d 998, 148 USPQ 742 (CCPA 1966); *In re Spormann*, 363 F.2d 444, 150 USPQ 449 (CCPA 1966); *In re Shetty*, 566 F.2d 81, 195 USPQ 753 (CCPA 1977); *In re Newell*, 891 F.2d 899, 13 USPQ2d 1248 (Fed. Cir. 1989); *In re Rijckaert*, 9 P.3d 1531, 28 USPQ2d 1955 (Fed. Cir. 1993).

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subject matter of applicants' claims was *prima facie* obvious within the meaning of Section 103(a). Favorable reconsideration of the Examiner's position and withdrawal of the respective rejection is respectfully solicited.

The Examiner applied the teaching of *Hirano et al.* "to further show the claimed amount of mica." It is, however, noted that *Hirano et al.*'s disclosure pertains to a polymer mixture which comprises an aromatic polycarbonate as a major constituent.<sup>14)</sup> Also, the inorganic fillers which are mentioned in the reference as co-constituents of the polycarbonate blend of *Hirano et al.* "function to impart enhanced flame retardancy and/or antidripping."<sup>15)</sup> It is, in fact, the object of *Hirano et al.* to provide thermoplastic polycarbonate based compositions which are designed for flame retardant moldings in which some portion require or desire such flame retardancy for use.<sup>16)</sup>

While the disclosure of *Hirano et al.* shows the claimed amount of mica, the showing is in a completely different context than applicants' invention or, more pertinently, the teaching of *Farber et al.* and a person of ordinary skill in the art would not have been motivated by the disclosure of the secondary reference to reduce the amount of mica which is employed in the blend of *Farber et al.*'s claim 12 in view of the secondary reference. As pointed out in the foregoing, *Farber et al.* aim at improving or at least maintaining impact strength of certain blends by adding a combination of 20% to 30% of mica and 20% to 30% of glass fibers to a styrene-butadiene-acrylonitrile copolymer. A reduction of the amount of mica to the 0.5 to 12 parts by weight which are employed in accordance with the disclosure of *Hirano et al.* would evidently reduce the impact strength properties of the composition and would thereby render the compositions unsuitable for the purposes of *Farber et al.*'s invention. If proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification.<sup>17)</sup> Accordingly, the suggestion or motivation to combine the references in such a manner as is necessary to arrive at applicants' invention is lacking. It is, however, one of the three basic criteria which have to be met in order to establish a *prima facie* case of obviousness that

14) Cf. col. 5, indicated lines 62 and 63, of US 6,448,316.

15) Cf. col. 6, indicated lines 6 to 13, of US 6,448,316.

16) Cf. e.g. col. 2, indicated lines 44 to 55, of US 6,448,316.

17) *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984).

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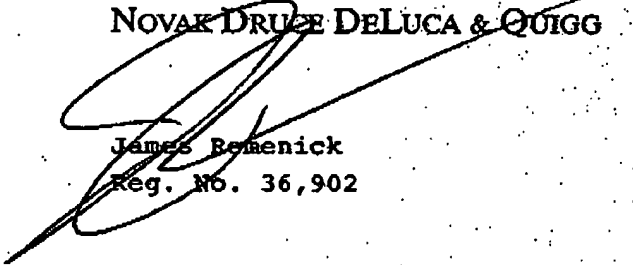
there be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine the reference teachings. The teaching or suggestion to make the claimed combination must be found in the prior art and cannot be based on the applicant's disclosure.<sup>18)</sup>

The teaching of *Farber et al.* when taken in view of the disclosure of *Hirano et al.* is, in light of the foregoing, also not deemed suited to establish that the subject matter of applicants' claims was *prima facie* obvious within the meaning of Section 103(a). Favorable reconsideration of the Examiner's position and withdrawal of the respective rejection is respectfully solicited.

The invention defined in applicants' Claims 9, 10, 14 to 17 and 21 to 33 is therefore deemed to be patentable. Early action by the Examiner would be greatly appreciated by applicants.

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Respectfully submitted,  
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Encl.: CLAIM AMENDMENTS (Appendix I)

JR/BAS

<sup>18)</sup> *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438, 1442 (Fed. Cir. 1991)